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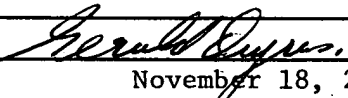





PTO/SB/21 (03-03)  
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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/615,140	
	Filing Date	07/09/2003	
	First Named Inventor	DUPRAS Serge / DUPRAS Gérald	
	Art Unit	3727	
	Examiner Name		
Total Number of Pages in This Submission	18	Attorney Docket Number	

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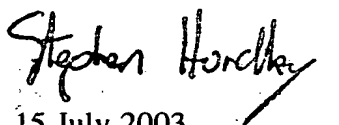
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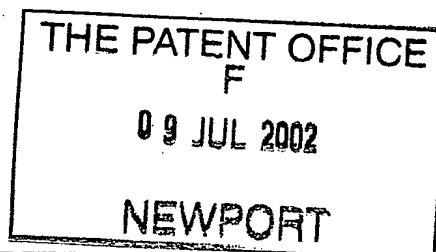
Dated

15 July 2003



# Request for grant of a patent

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The Patent Office

Cardiff Road  
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1. Your reference

9116-1

2. Patent application number

(The Patent Office will fill in this part)

0215841.8

- 9 JUL 2002

3. Full name, address and postcode of the or of each applicant (*underline all surnames*)

GERALD DUPRAS

8880, RUE ST-JACQUES

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1028, DE LA BOHEME

BELLEFEUILLE, QUEBEC, CANADA

JOR 1A0

Patents ADP number (*if you know it*)

8420523001

CUSTOMER ACCOUNT NUMBER C05193

8420531001

If the applicant is a corporate body, give the country/state of its incorporation

4. Title of the invention

COMBINATION LIQUID CONTAINER & SUPPORTING STRUCTURE

5. Name of your agent (*if you have one*)

"Address for service" in the United Kingdom to which all correspondence should be sent (*including the postcode*)

INVENTION QUEBEC INC.

DELEGATION GENERALE DU QUEBEC

59, PALL MALL

LONDON, ENGLAND

SW1Y 5JH

Patents ADP number (*if you know it*)

5871199003

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (*if you know it*) the or each application number

Country

Priority application number  
(*if you know it*)

Date of filing  
(*day / month / year*)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing  
(*day / month / year*)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (*Answer 'Yes' if:*

a) any applicant named in part 3 is not an inventor, or

b) there is an inventor who is not named as an applicant, or

c) any named applicant is a corporate body.

See note (d))

# Patents Form 1/77

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Description	2 X 10
Claim(s)	
Abstract	
Drawing(s)	2 X 10

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

Request for preliminary examination and search (*Patents Form 9/77*)

Request for substantive examination (*Patents Form 10/77*)

Any other documents  
(please specify)

11. ☒ We request the grant of a patent on the basis of this application.

Signature:

GERALD DUPRAS

Signature

SERGE DUPRAS

Date June 28/2002

12. Name and daytime telephone number of person to contact in the United Kingdom (0171) 930-8314

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We, Gerald & Serge Dupras

C/O Invention Quebec Inc.  
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Montreal, Quebec, Canada  
H1Z 2H4

do hereby declare this invention to be described in the following statement:

**COMBINATION LIQUID CONTAINER & SUPPORTING STRUCTURE**

**FIELD OF THE INVENTION:**

The present invention relates to the general field of liquid disposal structure and is particularly concerned with a combination liquid container and supporting structure for supporting individuals.

**BACKGROUND OF THE INVENTION:**

An impressive volume of fluid waste or polluting fluid such as heating-oil or the like are created by our contemporary industrialized society each year. The automotive industry or heating fuel accounts for a large portion of these fluids.

Engines and power systems in automotive vehicles typically utilize fluids which needs to be changed periodically in order to reduce wear on the vehicle. Examples of such fluid include waste antifreeze, waste oil and the like.



Historically, waste engine oil has been disposed of in undeveloped areas or dumps. This practice in some cases, has resulted in contamination of underlying ground water and other disastrous environmental damages. Accordingly, some authorities have proposed or passed legislation requiring that waste oil be brought to centralized locations, such as service stations for holding and eventually recycling. In many cases though, compliance with such statutes has proven to be disappointing since service stations often lack proper facilities for holding waste engine oil. Some service stations even tend to discourage persons who change their own oil from using their limited storage facilities.

Also, in recent years, significant levels of concern have been raised over the use of below-ground liquid storage vessels, such as tanks. Problems arise when the vessels begin to leak due to corrosion and the like, allowing a stream of material to leak into the surrounding soil. The problems are sometimes compounded by the fact that detection sometimes does not occur before relatively long periods of time.

After entering the soil, these material percolate downward into, for example ground water supplies. Again, this represents a clear environmental danger.

Modifying underground vessels to be environmentally safe is relatively expensive. Monitoring and repairing of underground vessels is also expensive and complex. As a consequence, above-ground storage vessels are becoming more frequently used. By using an above-ground storage tank, it is possible to more closely monitor leaks primarily because the tank is fully visible. Furthermore, the tank is less likely to leak in the first instance because it is maintained with paint and the like. Still furthermore, leak management may prove to be considerably less expensive in above-ground storage vessel situations.

However, above-ground storage vessels nevertheless suffer from some drawbacks. One of the major drawback relates to the amount of space required for the above-ground storage vessels. As mentioned previously, even dedicated locations such as service stations often lack proper facilities for holding liquid waste, such as waste engine oil. Accordingly, it would be desirable to provide a structure allowing for above-ground storage of liquid waste while reducing the amount of fluid space and being yet aesthetically pleasing. This last aspect is very important to circumvent the municipal reglementation related to heating-oil tank. Hence, it would prove to be highly desirable to provide an above-ground storage tank capable of being used for another purpose such as for acting as a support structure.

It is an object of the present invention to provide a combination storage tank-support structure. Advantages of the present invention include that the proposed storage tank is specifically designed so as to be useable in an above-ground setting so as to circumvent disadvantages associated with below-ground storage vessels. Also, the proposed structure reduces the space fluid associated with conventional above-ground storage vessels by providing a structure that can be used for serving both as a tank and as an aesthetic supporting structure. More specifically, the proposed structure is designed so as to be useable both as a storage tank and as a stair, a balcony, a combination of stairs and balcony or similar structures.

The proposed structure is designed so as to allow for safe storage of potentially hazardous liquids, such as gasoline, heating-oil, waste-oil, pesticides, windshield washing fluid and a myriad of other liquid products with reduced risks of leakage and/or evaporation. Furthermore, the proposed device is optionally provided with adequate venting and drainage components so as to ensure proper handling of the waste material. Still furthermore, the proposed device is designed so as to be manufacturable using conventional forms of manufacturing and conventional material so as to provide a combination storage tank/support structure that will be economically feasible, long lasting and relatively trouble free in operation.

**BRIEF DESCRIPTION OF THE DRAWINGS:**

Various embodiments of the present invention will now be disclosed, by way of example, in reference to the following drawings, in which:

**FIGURE 1:** in a perspective view, illustrates a combination fluid container/supporting structure wherein the container has generally the form of a set of steps leading to a platform;

**FIGURE 2:** in a perspective view, illustrates an alternative embodiment of the invention wherein the container has a general configuration of a set of steps, the set of steps having a generally angularly oriented base;

**FIGURE 3:** in a perspective view, illustrates an alternative embodiment of the invention wherein the container has a generally angled configuration and wherein a set of steps is affixed thereto;

**FIGURE 4:** in a perspective view, illustrates an alternative embodiment of the invention wherein the container has a generally parallelepiped-shaped configuration for use as a platform to which a set of steps (shown in phantom lines) may be attached;

**FIGURE 5:** in a top view, illustrates an alternative embodiment of the invention wherein the container has generally the shape of a platform;

**FIGURE 6:** in a cross sectional view taken along arrows A-A of FIG. 5, illustrates some of the internal components, part of the container shown in FIG. 5;

**FIGURE 7:** in a bottom perspective view, illustrates the configuration of the bottom section of various types of container adapted to be used as platforms;

**FIGURE 8:** in a partial perspective view with sections taken out, illustrates the configuration of an alternative embodiment of the invention wherein part of the frame is made out of tubing;

**FIGURE 9:** in a partial perspective view with sections taken out, illustrates an alternative embodiment of the invention wherein the container is adapted to be used as a platform and wherein part of the frame is made out of an inwardly oriented channel;

**FIGURE 10:** in a partial perspective view with sections taken out, illustrates an alternative embodiment of the invention wherein the container is adapted to be used as a platform and wherein part of the frame is made out of an outwardly oriented channel;

**FIGURE 11:** in a partial perspective view with sections taken out, illustrates an alternative embodiment of the invention wherein the container is adapted to be used as a platform and wherein a top wall of the platform is provided with flanges extending therefrom.

**DETAILED DESCRIPTION:**

Referring to FIG. 1, there is shown a combination liquid container/supporting structure (10) in accordance with an embodiment of the present invention. The combination (10) shown in FIG. 1 has generally the configuration of a set of steps leading to a platform. It should be understood that the combination (10) could

assume other configurations such as illustrated in the other FIGS. and in other possible embodiments (not shown) without departing from the scope of the present invention. For example, the combination could assume the configuration of a balcony, a patio or any other supporting platform having or not, steps attached thereto without departing from the scope of the present invention.

The container is adapted to be used for storing various types of liquids such as waste-oil, gasoline, waste antifreeze, pesticides, waste-water and other liquids without departing from the scope of the present invention. Typically, the container provides a safe and environmentally sound storage area for holding such products. Some of the preferred embodiments of the container use steel, stainless steel or aluminum as a construction material, but a variety of other materials may be used, such as a suitable polymeric resin. Typically, the exterior surface of the container is primer-coated and painted with a final coat of rust-resistant enamel.

The container shown in FIG. 10 includes a base wall (12), an opposed top wall (14), a rear wall (16), a pair of side walls (18), (only one of which is shown in FIG. 1) and a front wall (20). The walls (12) through (20) define an enclosure for storing the liquid therein. The front wall (20) is bent so as to assume the general configuration of a stair including step sections (22) and spacing sections (24). The top wall (14) is configured and sized so as to be used as a supporting platform for supporting an individual. The walls (12) through (18) are typically made out of a suitable generally flat plate of material while the front wall (20) is typically made out of a sheet of material having been bent to define the step and spacing sections (22), (24).

The combination (10) shown in FIG. 1 typically includes an inlet duct (26) in fluid communication with a fluid inlet aperture (28). The inlet duct (26) is typically releasably attached to the top wall (14) using a suitable releasable fastening means

such as a threaded link (30). The top end of the inlet duct (26) is preferably provided with a removable sealing cap (32).

The combination (10) shown in FIG. 1 is also preferably provided with a venting tube (34) in fluid communication with the enclosure. The venting tube (34) is also preferably releasably attached to the top wall (14) using a suitable releasable fastening means such as a threaded link (36). The upper longitudinal end of the venting tube (34) is typically provided with a generally inverted hook-shaped discharge end (38). It should be understood that both the inlet duct (26) and the venting tube (34) could assume other configurations and be otherwise connected to any of the walls (12) through (20) without departing from the scope of the present invention.

The combination (10) shown in FIG. 1 is also preferably provided with an outlet aperture (40) typically located in one of the side walls (18) adjacent the base wall (12). The outlet aperture (40) is provided with suitable valve or closing means (42) for selectively preventing and allowing discharge of the liquid contained in the enclosure defined by the walls (12) through (20). Also, the combination (10) shown in FIG. 1 is typically provided with a water drainage aperture (44) having suitable valve or closure means (46) attached thereto for draining excess water in situations wherein the contained (10) is used for storing oil or other relatively light density liquids.

The combination (10) is still preferably further provided with both an inlet aperture (48) having suitable valve or closure means (50) and a level monitoring means such as a level gauge (52) for monitoring the level of the liquid within the enclosure.

Typically, the combination (10) is further provided with handrail attachment means such as handrail attachment brackets (54) extending from the side walls (18) for securing a handrail at a suitable location to the combination (10). Any type of suitable handrail could be used without departing from the scope of the present invention.

Referring now more specifically to FIG. 2, there is shown a combination (10) in accordance with an alternative embodiment of the invention. The combination shown in FIG. 2 is substantially similar to that shown in FIG. 1 and, hence, similar reference numerals will be used to denote similar components. One of the main differences between the embodiments shown in FIGS. 1 and 2 resides in the configuration of the base wall (12). Whereas the base wall (12) of the embodiment shown in FIG. 1 extends in a generally parallel orientation relative to the top wall (14). The base wall (12) of the embodiment shown in FIG. 2 has at least an angled section (56) thereof extending in an angled configuration relative to a parallel section (58) thereof and to the top wall (14). While the base wall (12) of the embodiment shown in FIG. 1 is designed so as to abuttingly rest on the ground surface, only the section (58) of the embodiment shown in FIG. 2 is adapted to lie on the ground surface while the angled section (56) provides a spacing (60) relative to the ground surface. In the embodiment shown in FIG. 2, leg abutment protrusions (62) typically having a generally L-shaped configuration are used for securing stabilizing legs (64). The legs (64) are adapted to be used for supporting a section of the combination (10) so that the latter may be used as stairs and/or a supporting platform.

Referring now more specifically to FIG. 3, there is shown yet another alternative embodiment of the invention wherein similar reference numerals will be used to denote similar components. One of the main differences between the embodiment shown in FIGS. 2 and 3 resides in the configuration of the front wall (20). While the front wall (20) of the embodiment shown in FIG. 2 has a generally



bent configuration, the front wall (20) of the embodiment shown in FIG. 3 has a generally flat configuration. In the embodiment shown in FIG. 3, a separate bent step plate (66) defining step and spacing sections (22), (24) is solidly anchored to the front wall (20). The step plate (66) can be made out of a similar or a different material than the remainder of the combination (10).

Referring now more specifically to FIG. 4, there is shown yet another alternative embodiment of the invention wherein similar reference numerals will be used to denote similar components. One of the main differences between the embodiment shown in FIG. 4 and the embodiments shown in FIGS. 1 through 3, resides in that while the stair and platform sections of the combinations shown in FIGS. 1 through 3 were in fluid communication with each other and made out of generally integrally extending sections. The platform and stair sections of the embodiment shown in FIG. 4 are made out of distinct sections separable from each other. The platform and stair sections may be put in fluid communication with each other during assembly or define permanently distinct enclosures not intended to be put in fluid communication with each other. Both the platform and stair sections could be made out of similar or different material.

Referring now more specifically to FIG. 5, there is shown yet another alternative embodiment of the invention wherein similar reference numerals will be used to denote similar components. The embodiment shown in FIG. 5, strictly assumes the general configuration of a substantially parallelepiped-shaped container for forming a supporting structure such as a balcony, a patio or the like.

Both the top wall (14) and the base wall (12) typically have a generally rectangular configuration while the rear, side and front walls (16), (18) and (20) typically extend therebetween.

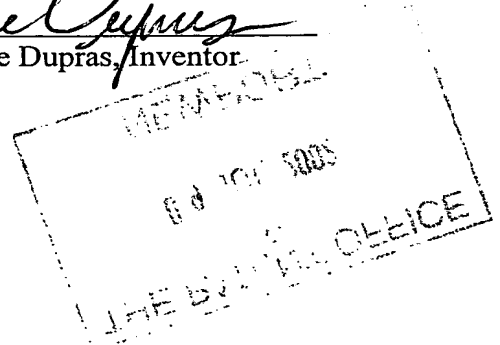
As shown more specifically in FIG. 7, a set of supporting legs (68) made out of cement or other suitable material may be attached to the base wall (12) using an attachment plate (70), an I-beam (72) or any other suitable means. The water drainage aperture (44) typically extends from the water collecting protrusion (74). The peripheral frame of the combination (10) is typically made out of hollow-tubing (76) typically having a generally rectangular annular configuration. Plates (78) are typically welded or otherwise attached to the tubing (76) for forming a main reservoir (80) and auxiliary reservoirs (82) and (83) for security (double wall). Channels or partition walls (84) typically extend between the plates (78).

Stairs or handrails may be either attached directly to the outer surface of the tubing (76) when reservoir (82) is not used as double wall or similar peripheral frame material or can be attached to the anchoring clips (54) extending therefrom.

FIG. 9 illustrates another alternative embodiment of the invention wherein the peripheral frame is made out of a generally U-shaped channel (88) having channel flanges (87) inwardly oriented while FIG. 10 illustrates an embodiment of the invention wherein the channel flanges (87) are outwardly oriented. FIG. 11 illustrates an alternative embodiment of the invention wherein the top wall (14) includes a generally flat plate having plate flanges (86) extending integrally and generally perpendicularly therefrom. The stairs or handrails may be either welded or otherwise affixed directly to the plate flanges (86). Throughout the embodiments, the top wall (14) may be covered with a suitable layer of cement, carpet, wood, fiberglass or any other suitable material.

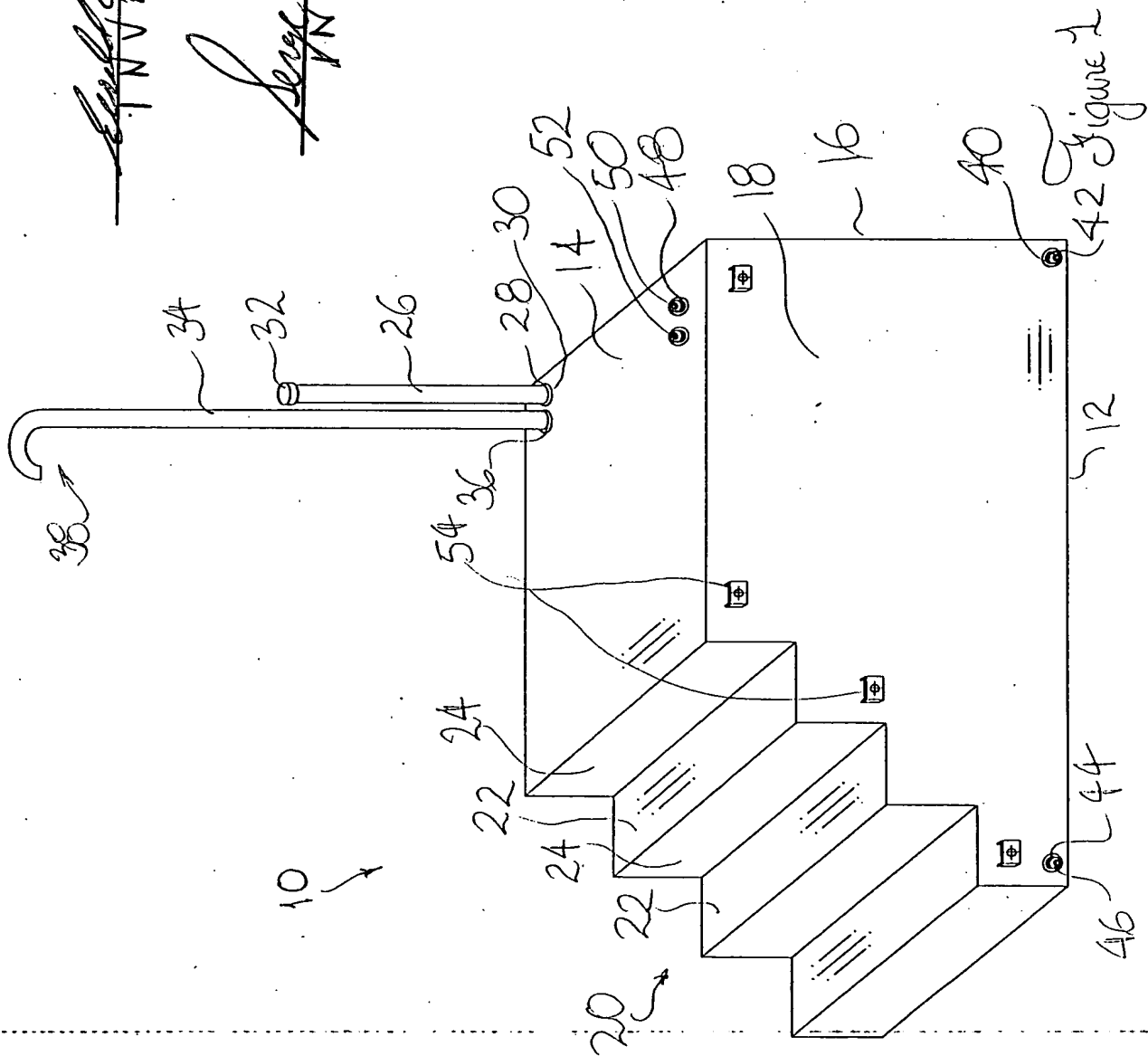
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Gerald Dupras, Inventor

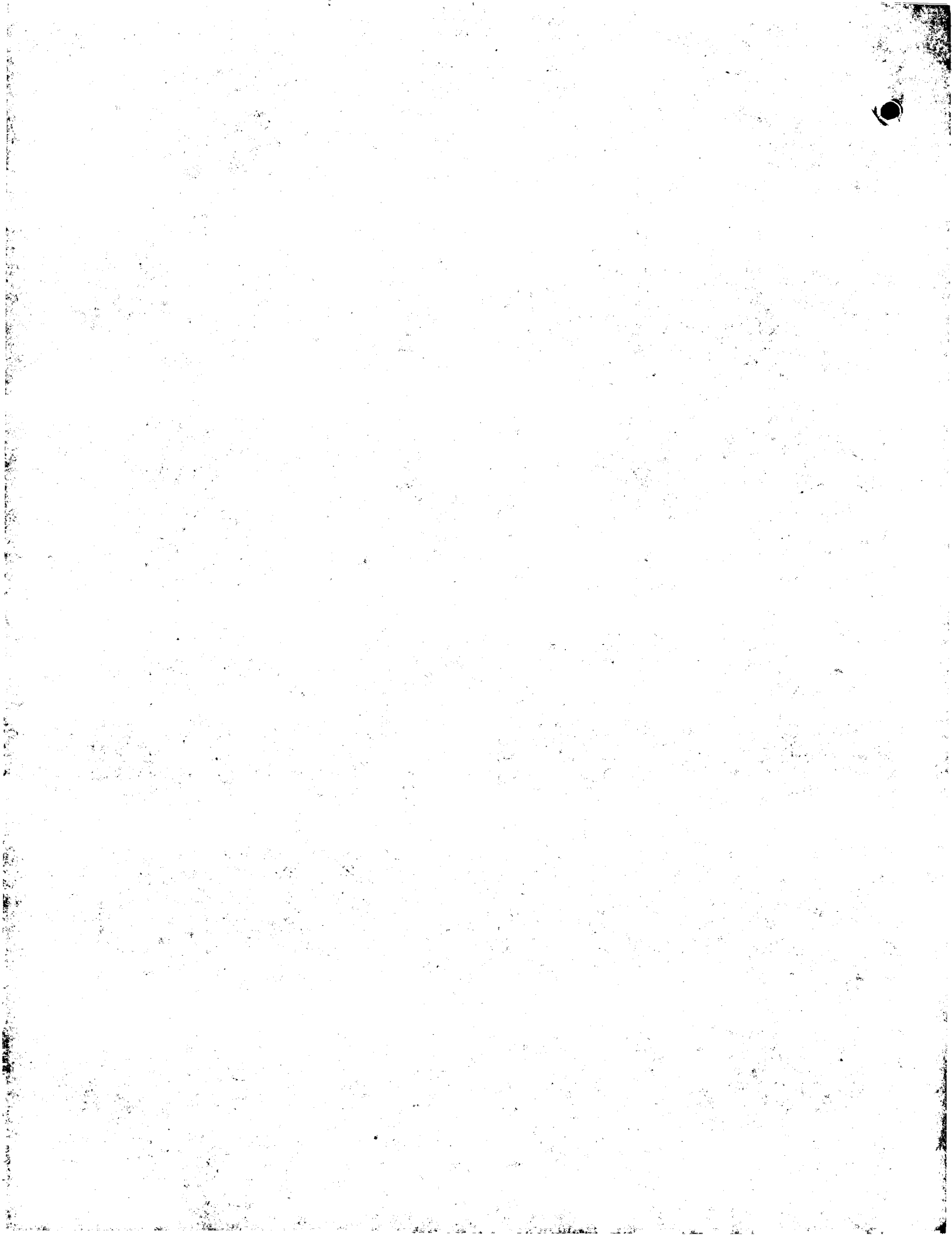
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Serge Dupras, Inventor

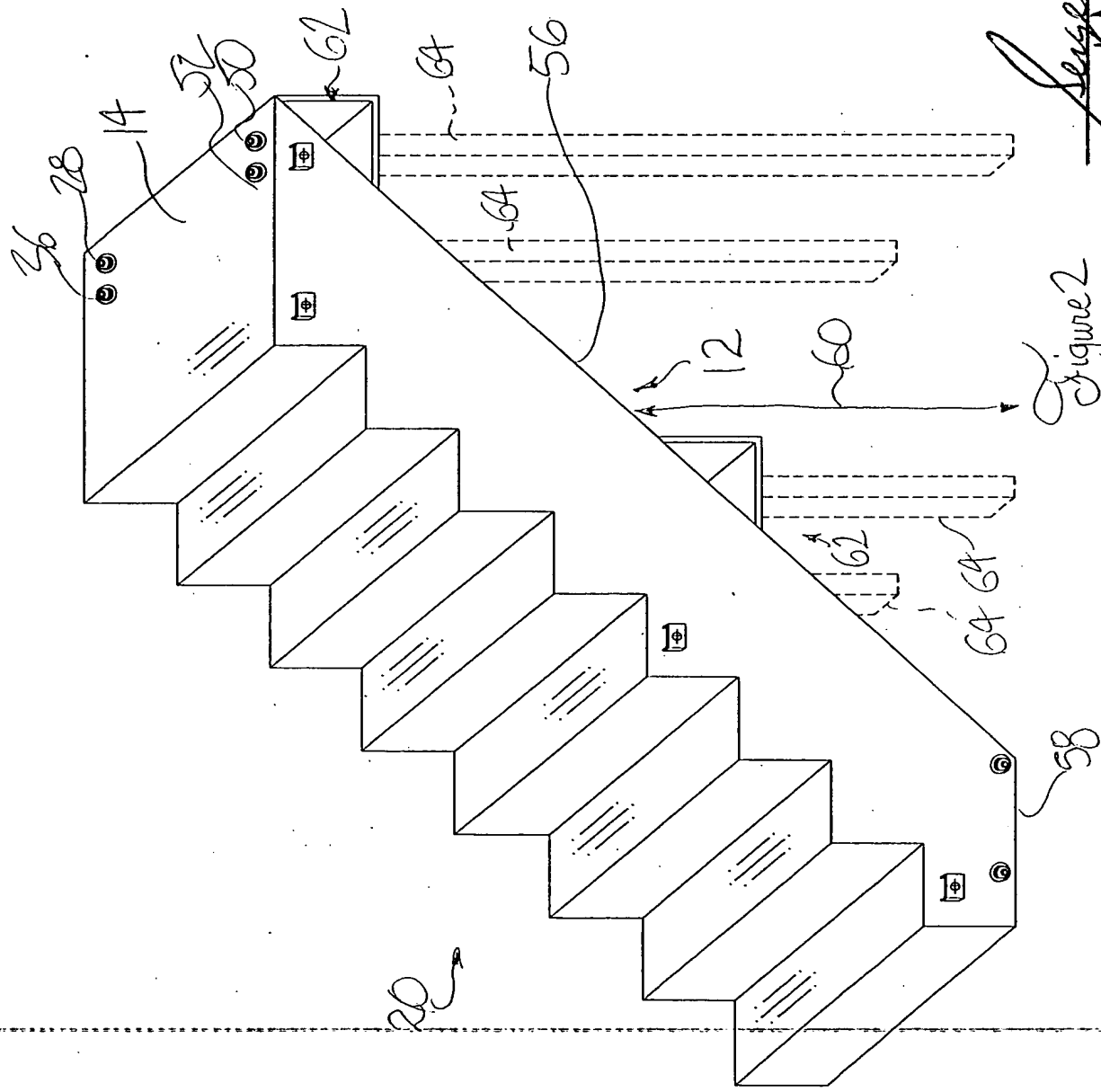


Errol C. Lippert  
INVENTOR

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*Ernest D. Dugan*  
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Figure 2



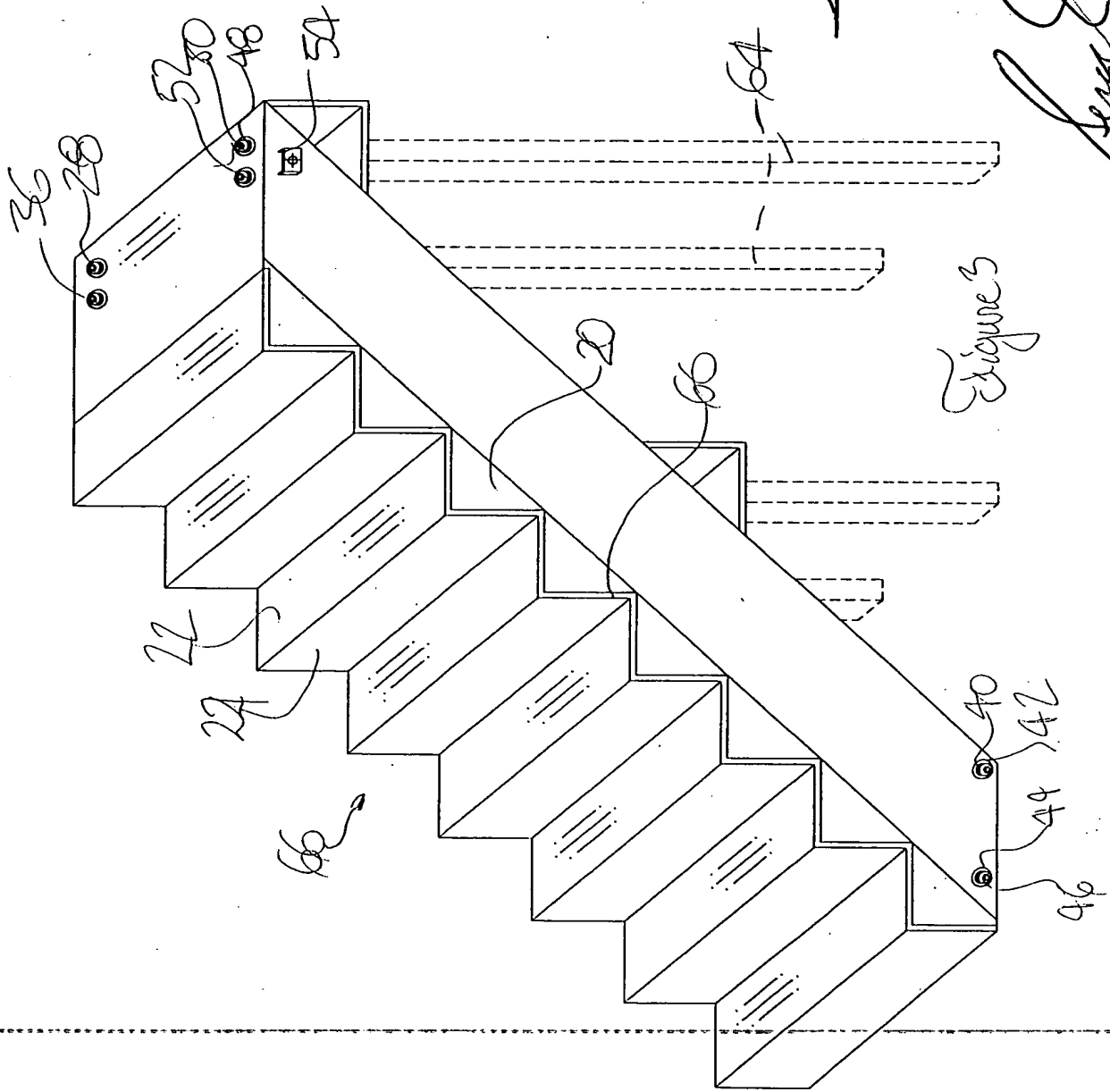


Figure 3

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INVENTOR





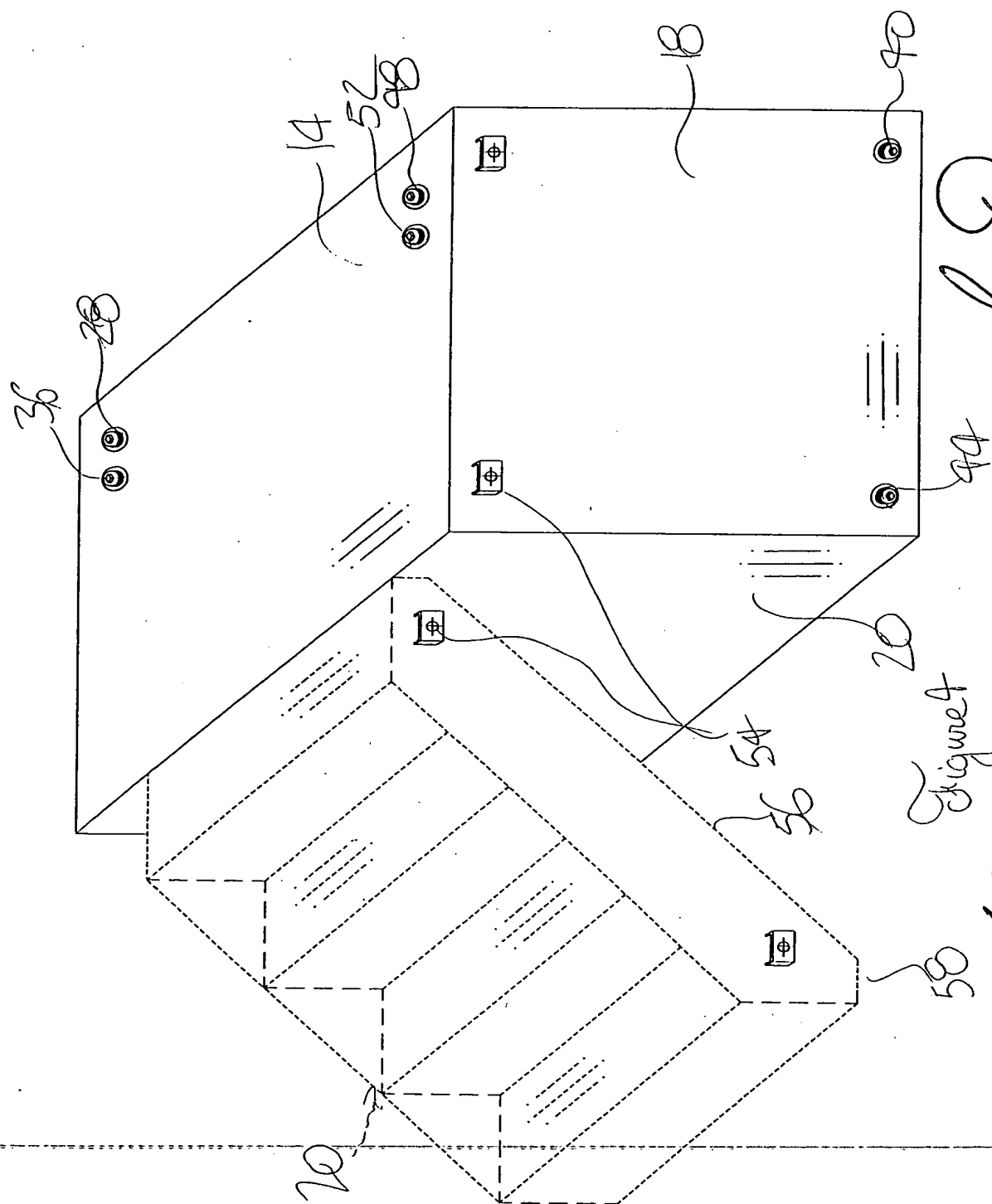


Figure 4

Edward Dwyer  
INVENTOR

*Serge Dupont*  
INVENTOR



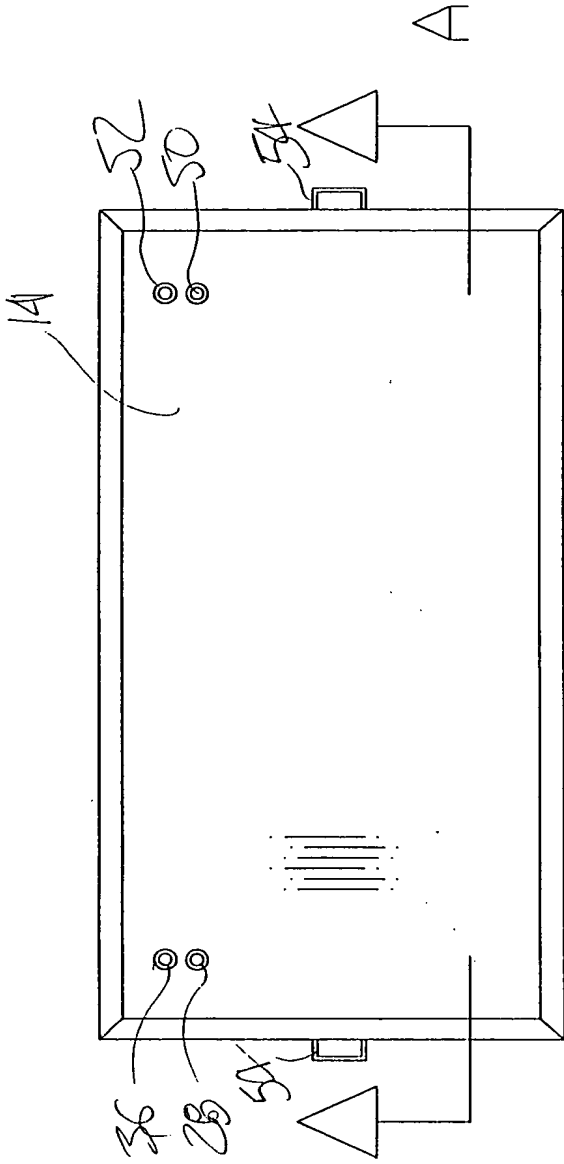


Figure 5

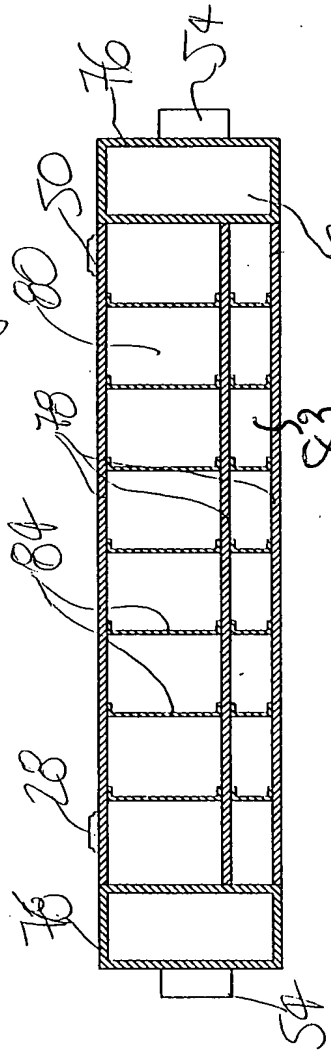


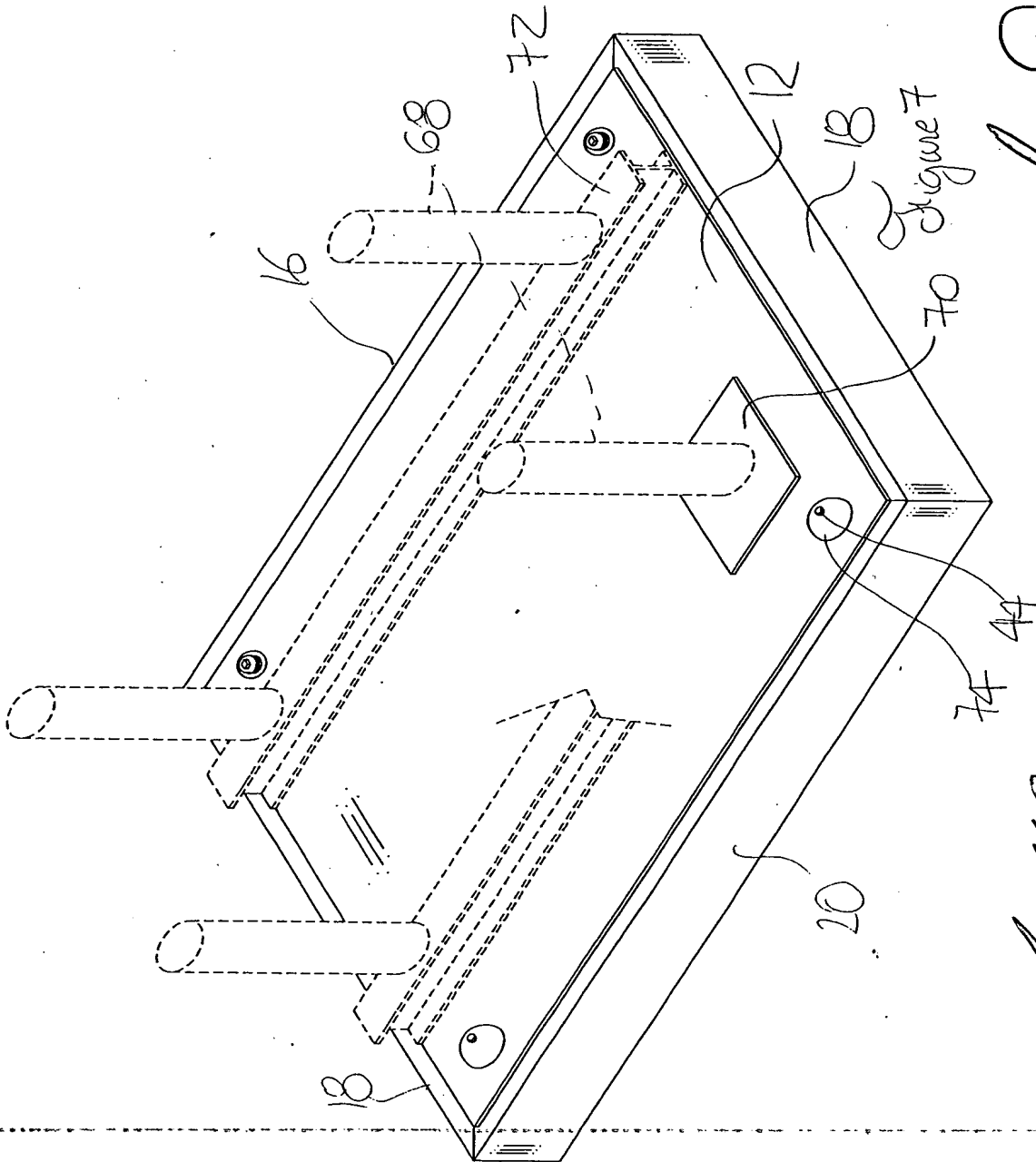
Figure 6

A-A

*Donald E. [Signature]*  
INVENTOR

*James E. [Signature]*  
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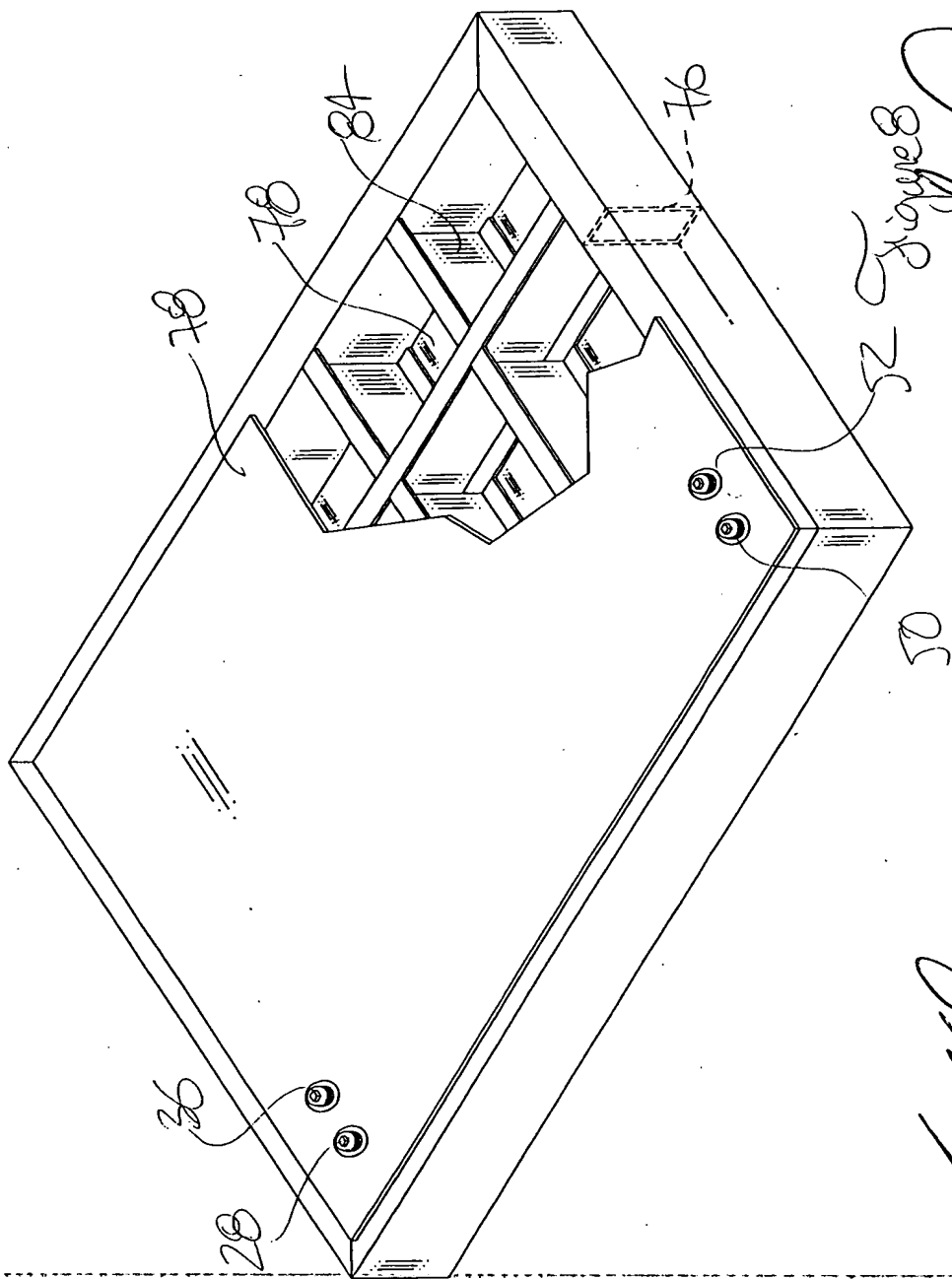
*Sever E. Quinn*  
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INVENTOR

~~INVENTOR~~





Figures

*Ernest D. [Signature]*  
INVENTOR

*Ernest D. [Signature]*  
INVENTOR





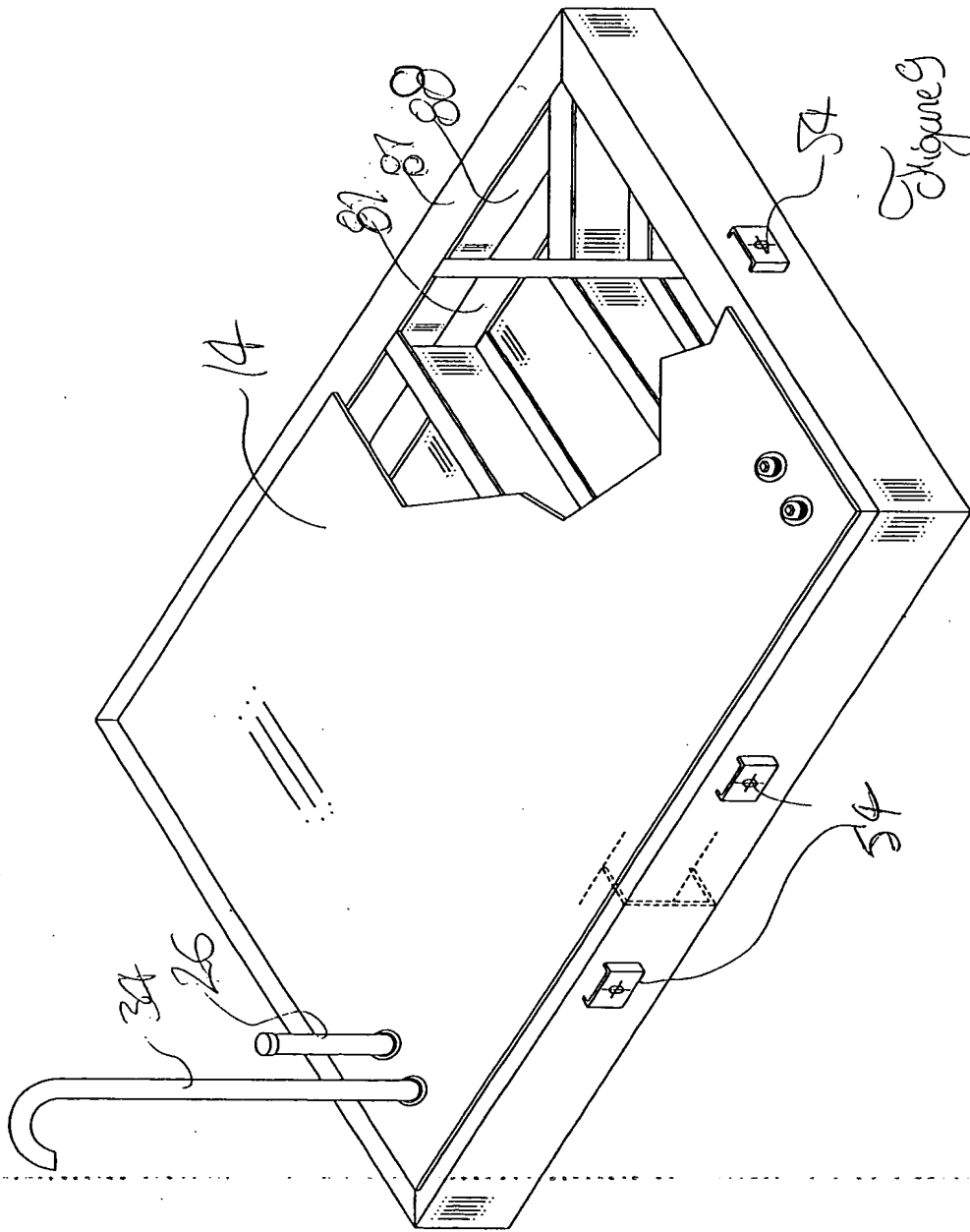


Figure 9

*James D. Jones*  
INVENTOR

*James D. Jones*  
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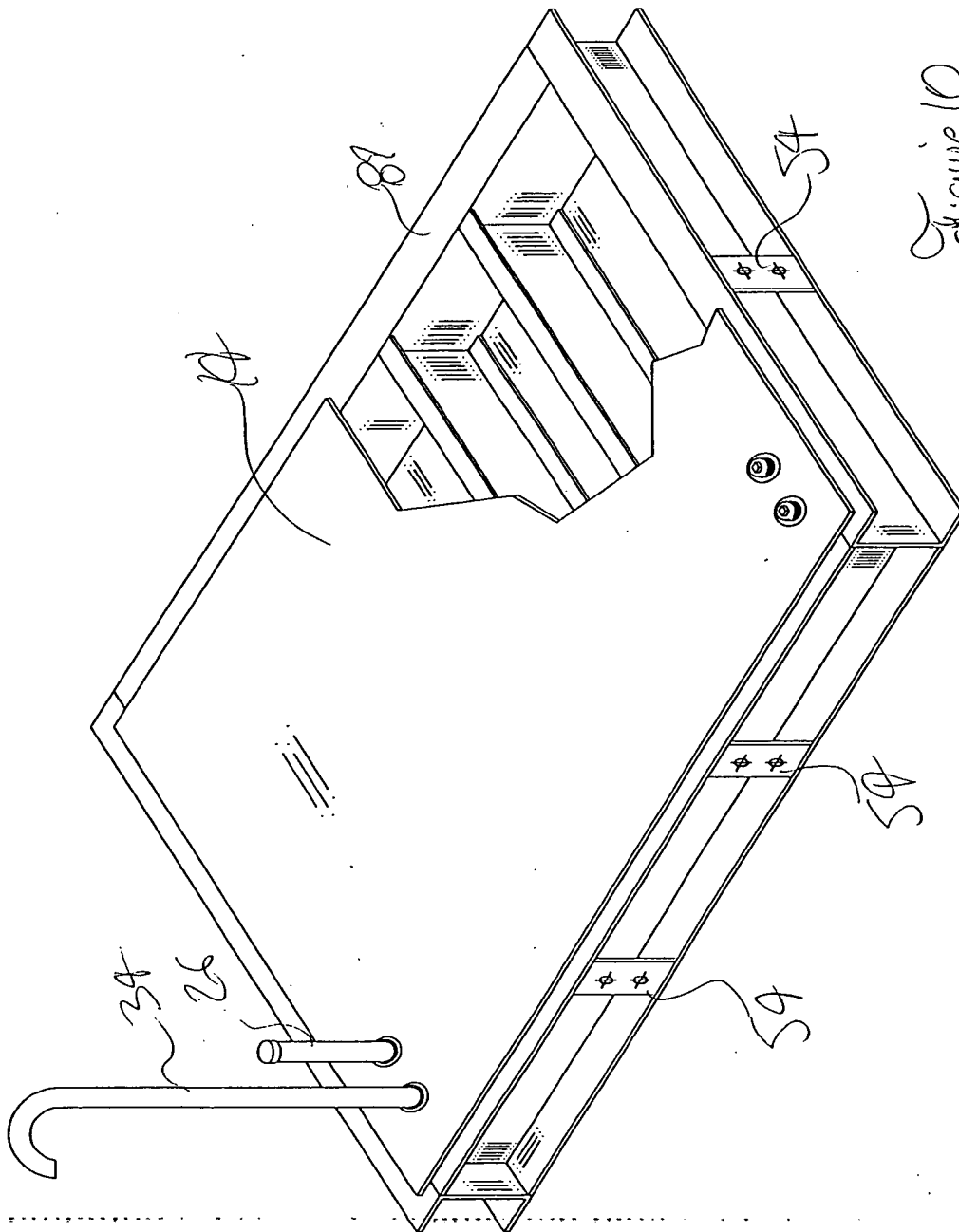
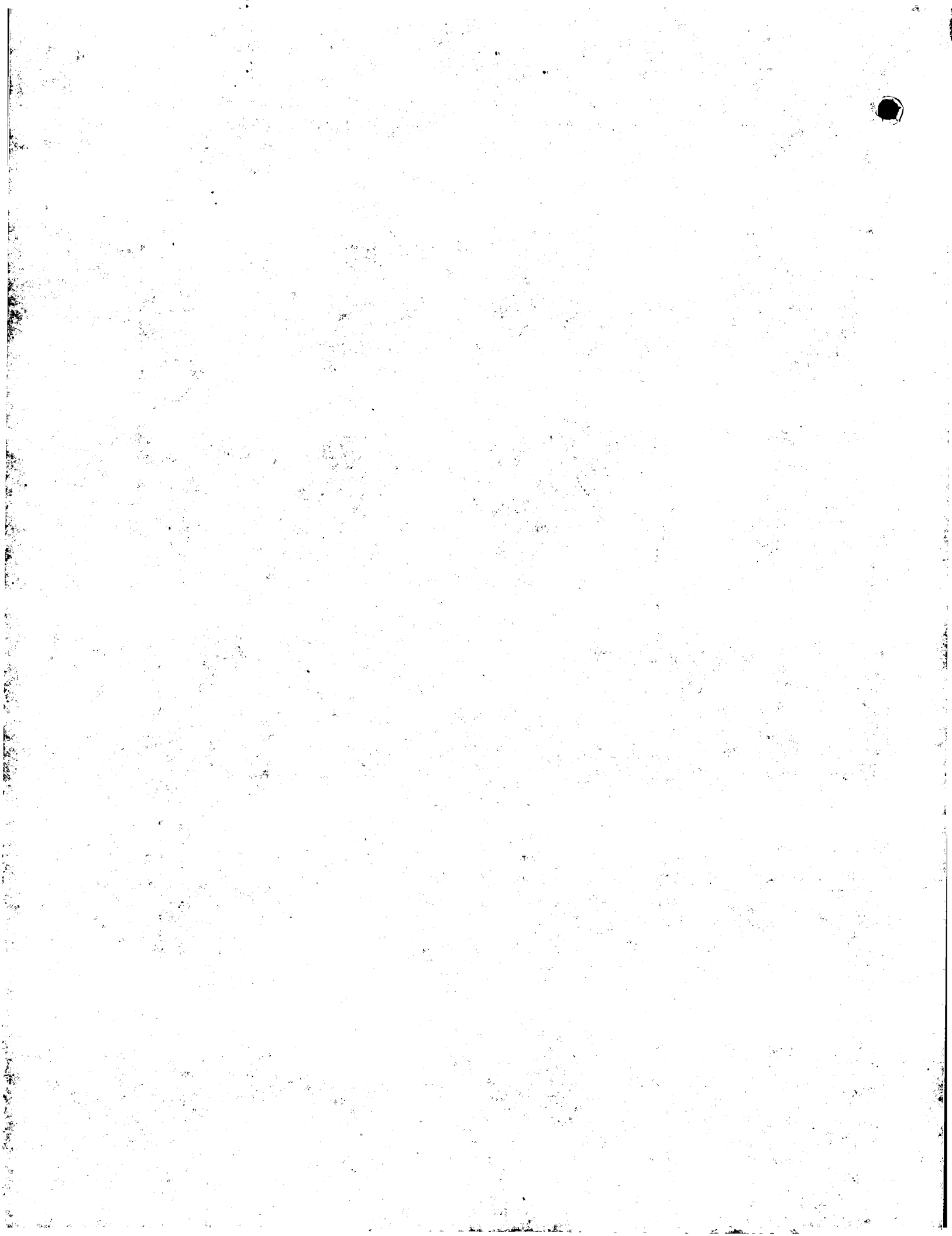


Figure 10

*Ernest J. Dwyer*  
INVENTOR

*Ernest J. Dwyer*  
INVENTOR



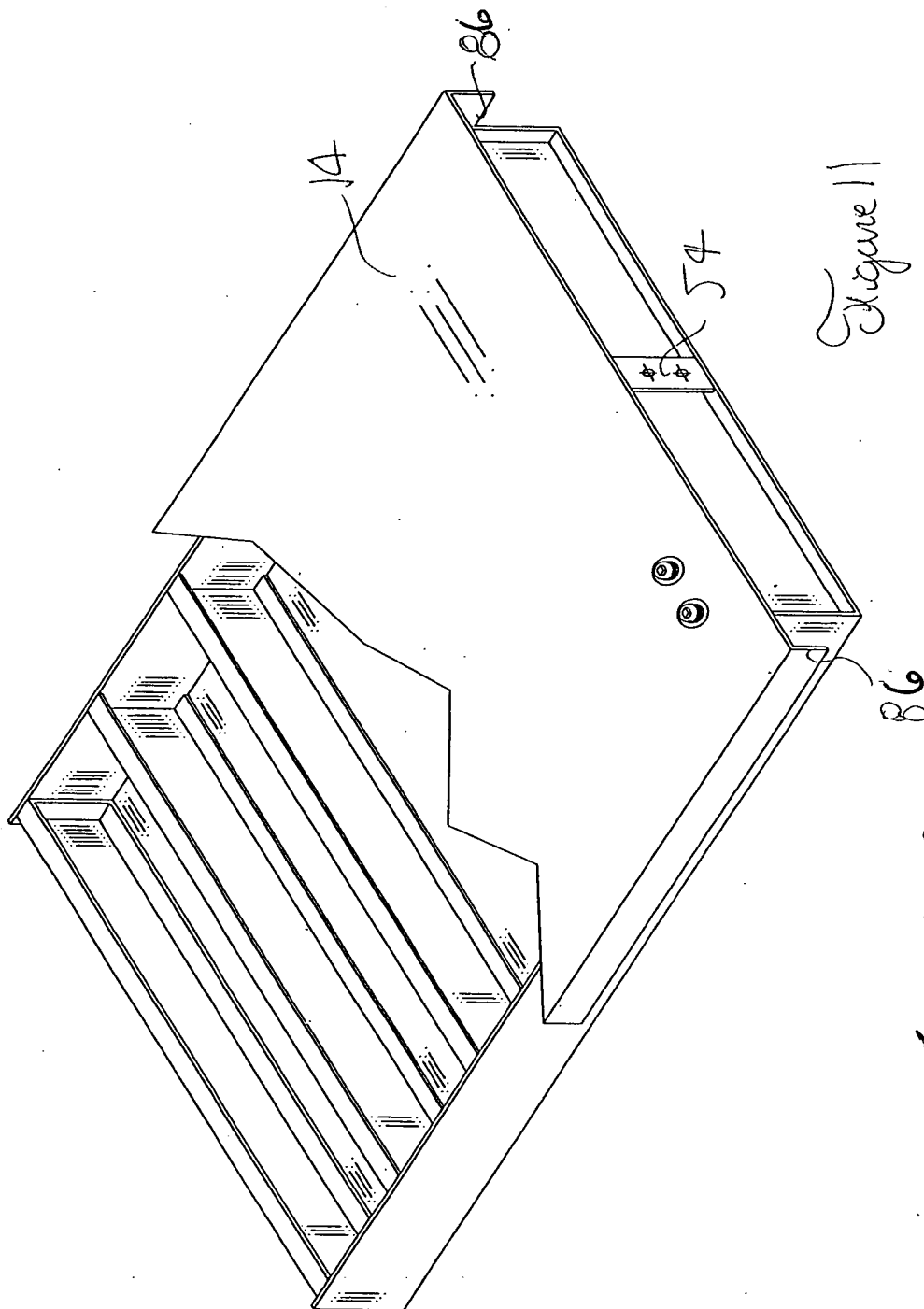


Figure 11

*Serge Dumais*  
INVENTOR

*Serge Dumais*  
INVENTOR

